



| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 79308

**\*79308\***

Page 2

January-24-12 1:57:23 PM

Item ID: D3688-5 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: STUD  
 Start Date: 24/01/2012 Start Qty: 4.00 **\*4\*** Cust Item ID:  
 Required Date: 07/02/2012 Req'd Qty: 4.00 **\*4\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                  | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp  |
|---|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|-----------------|
| 170<br><b>*170*</b><br>QC<br>Quality Control    | QC8- Inspect parts - second check<br><br>Memo<br>100% CHECK,CHECK ALL DIMENSIONS AND THREAD FIT        | 0.00<br><br>0.00     |         |        |              | 4             | 0             |                  | EO<br>inhouse   |
| 180<br><b>*180*</b><br>Purchasing<br>Purchasing | PURCHASING<br><br>Memo<br>Issue P/O: 16555<br>2Certificate of conformaty is required                   | 0.00<br><br>0.00     |         |        |              |               |               |                  | CX 12/03/26 (4) |
| 190<br><b>*190*</b><br>Packaging<br>Packaging   | Receive & Inspect for Damage & Mat'l Certs<br><br>Memo<br>Ensure certificate of conformity is attached | 0.00<br><br>0.00     |         |        |              |               |               |                  | 4/3/26 (4)      |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 79308

\*79308\*

Page 3

January-24-12 1:57:23 PM

Item ID: D3688-5 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: STUD  
 Start Date: 24/01/2012 Start Qty: 4.00 \*4\* Cust Item ID:  
 Required Date: 07/02/2012 Req'd Qty: 4.00 \*4\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description                           | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 200                            | QC5- Inspect part completeness to step on W/O      | 0.00                 |         |        |              |               |               |                  |                |
| *200*                          |  | 0.00                 |         |        |              |               |               |                  |                |
| QC                             | Memo   |                      |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |
| 210                            | Identify as per dwg & Stock Location: <u>ST GA</u> | 0.00                 |         |        |              |               |               |                  |                |
| *210*                          |  | 0.00                 |         |        |              |               |               |                  |                |
| Packaging                      | Memo   |                      |         |        |              |               |               |                  |                |
| Packaging                      |  |                      |         |        |              |               |               |                  |                |
| 220                            | QC21- Final Inspection - Work Order Release        | 0.00                 |         |        |              |               |               |                  |                |
| *220*                          |  | 0.00                 |         |        |              |               |               |                  |                |
| QC                             | Memo   |                      |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |

12/4/12  
 02-03-30

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

January-24-12 1:57:27 PM

Page 1

Work Order ID: 79308

\*79308\*

Parent Item: D3688-5

\*D3688-5\*

Parent Item Name: STUD

Start Date: 24/01/2012

Required Date: 07/02/2012

Start Qty: 4.00

Required Qty: 4.00

## Comments:

Rev:A New Issue 08-01-29 JLM Veriified By:EC  
IPP Rev:B Material Change 09-01-07 JLM Verified By:EC  
IPP Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|

M174PH-H900R1.000

Purchased

No

100

f

21.2000

1.087

4.576842

\*M174PH-H900R1 000\*

17-4SS H900 ROUND BAR 1.00

\*\*

12/3/19

Location

Loc Qty

Loc Code

MAT030

21.2

117445

21.2

120767

1. Last  
3.5 Feet

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



|                              |               |                             |
|------------------------------|---------------|-----------------------------|
| <b>DART AEROSPACE LTD</b>    |               | <b>Work Order:</b> 79308    |
| <b>Description:</b> Stud     |               | <b>Part Number:</b> D3688-5 |
| <b>Inspection Dwg:</b> D3688 | <b>Rev:</b> C | <b>Page 1 of 1</b>          |

### FIRST ARTICLE INSPECTION CHECKLIST

| Drawing Dimension | Tolerance           | Actual Dimension | Accept       | Reject      | Method of Inspection | Comments    |
|-------------------|---------------------|------------------|--------------|-------------|----------------------|-------------|
| Ø0.695            | +/-0.010            | .708             | /            |             | SA-9                 | U/L         |
| 0.625             | +0.004/-0.000       | .627             | /            |             |                      |             |
| 1.25              | +0.000/-0.03        | 1.24             | /            |             |                      |             |
| 118°              | 0.5°                | 118°             | /            |             |                      |             |
| R0.03             | +/-0.030            | R.03             | /            |             |                      |             |
| 0.11 Ref          | +/-0.030            | 11               | /            |             |                      |             |
| 90°               | 0.5°                | 90°              | /            |             |                      |             |
| Ø0.189            | +0.005/-0.001       | Ø.183            | /            |             |                      |             |
| 1.31              | +/-0.030            | 1.31             | /            |             |                      |             |
| 1.65              | +/-0.030            | 1.63             | /            |             |                      |             |
| 0.870             | +0.000/-0.010       | .863             | /            |             |                      |             |
| Ø0.659            | +0.000/-0.015       | Ø.645            | /            |             |                      |             |
| 11.920            | +/-0.015            | 11.915           | /            |             |                      |             |
| 2.90              | +/-0.030            | 2.90             | /            |             |                      |             |
| 3/4-16UNF-2A      | N/A                 |                  | /            |             |                      |             |
| 0.075 x 45°       | +/-0.010 x 0.5°     | .075 x 45        | /            |             |                      |             |
| 0.370             | +0.000/-0.010       | .363             | /            |             |                      |             |
| Ø0.189            | +0.005/-0.001       | .183             | /            |             |                      |             |
| R0.25             | +/-0.030            | R.25             | /            |             |                      |             |
| R0.50             | +/-0.030            | R.50             | /            |             |                      |             |
| <del>0.20</del>   | <del>+/-0.030</del> | <del></del>      | <del>/</del> | <del></del> | <del></del>          | <del></del> |

|                        |                       |                              |
|------------------------|-----------------------|------------------------------|
| <b>Measured by:</b> SA | <b>Audited by:</b> BK | <b>Preliminary Approval:</b> |
| <b>Date:</b> 12/3/19   | <b>Date:</b> 12/13/19 | <b>Date:</b>                 |

| Rev | Date     | Change               | Revised by | Approved |
|-----|----------|----------------------|------------|----------|
| A   | 09.05.11 | New Issue            | KJ         |          |
| B   | 09.11.04 | Dwg Rev updated      | KJ         |          |
| C   | 11.10.13 | Dimension 0.20 added | KJ         |          |

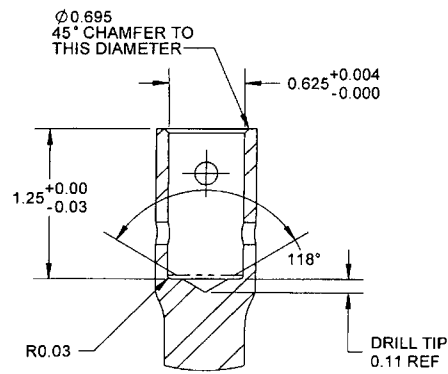
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

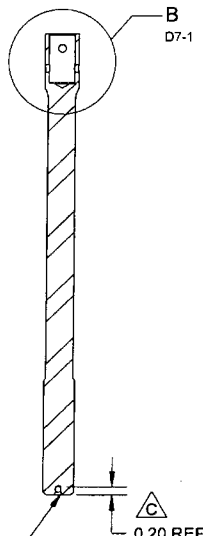
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

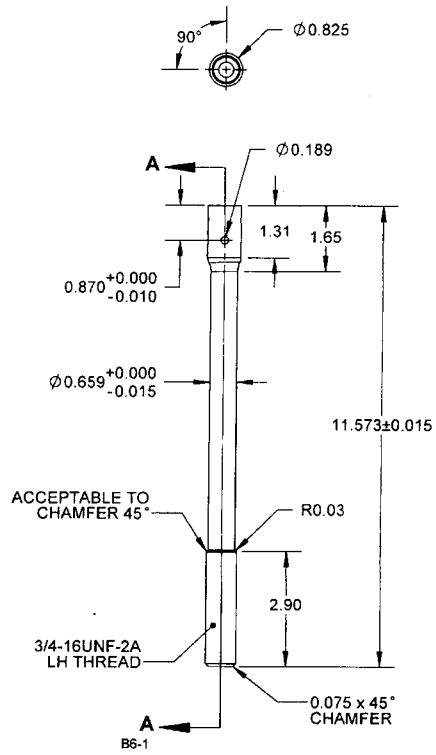
NOTE: Date & initial all entries



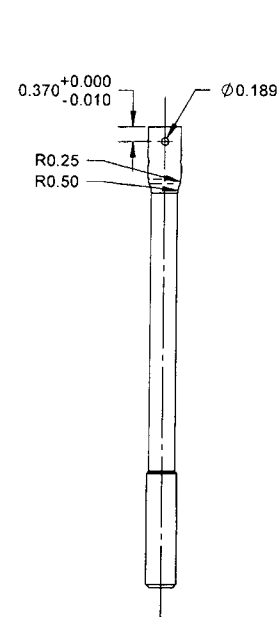
**DETAIL B**  
SCALE 3X  
D6-1



**SECTION A-A**  
D4-1



**D3688-1 STUD**



STUD  
REFERENCE  
ENGINEERING  
UNCONTROLLED  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 79308 M.L.J.  
12/01/24

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 1.24 lb
  - 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

**RELEASED**  
2009-08-22

| C          | 0.20 WAS 0.16 (ZN B5-1, B5-2, B6-3, B5-4); CENTER DRILL #4 WAS CENTER DRILL #2 (ZN B6-1, B6-2, B6-3, B6-4); UPDATE NOTE 8 TO REF QSI (ZN A8-1, A8-2, A8-3, A8-4)  | RF  | 09.09.09 |
|------------|---|---|----------|
| B          | CHANGE TO 17-4PH H-900 (ZN A8-1, A8-2, A8-3, A4-4); REDUCE LENGTH ON D3688-1 FROM 12.073 TO 11.573 (ZN C3-1) BASED ON PROTOTYPE INSTALL: Ø0.695 WAS Ø0.665 (ZN D8-1, D8-2, D8-3); Ø0.508 WAS Ø0.478 (ZN D8-4); REFORMATTED TO CURRENT DWG STANDARDS | RF  | 08.11.24 |
| A          | NEW ISSUE   | RF  | 08.05.22 |
| REV.       | DESCRIPTION   | BY  | DATE     |
| DESIGN     | RF  | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA<br>DRAWING NO. <b>D3688</b><br>TITLE <b>STUD</b><br>REV. C<br>SHEET 1 OF 4<br>SCALE<br>NTS |          |
| DRAWN      | RF  |   |          |
| CHECKED    | 40  |   |          |
| MFG. APPR. | 21  |   |          |
| APPROVED   | 40  |   |          |
| DE APPR.   | 40  |   |          |
| DATE       | 09.09.09  |   |          |

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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

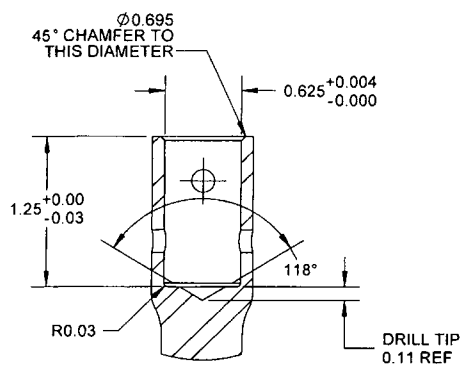
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

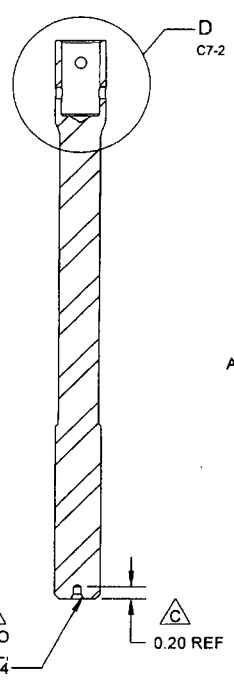
NOTE: Date & initial all entries

79308

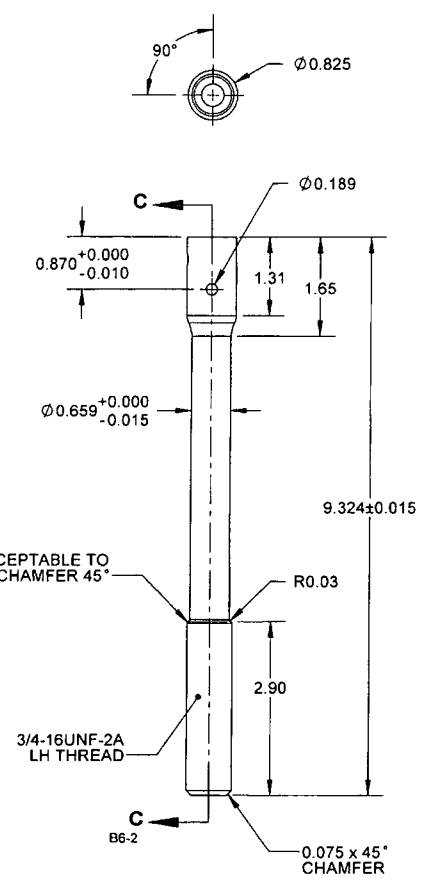
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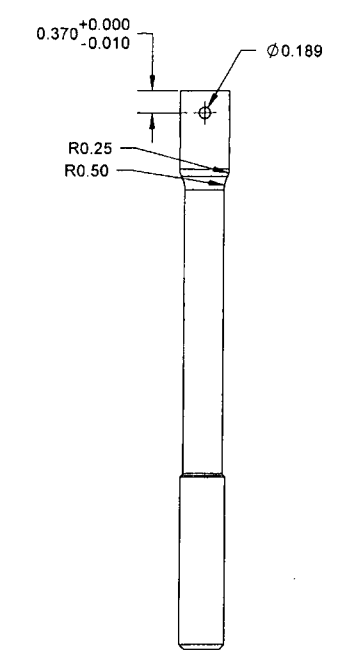
**DETAIL D**  
SCALE 2X  
D6-2



**SECTION C-C**  
D4-2



**D3688-3 STUD**



- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.97 lb
  - 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

|            |          |  |              |
|------------|----------|--|--------------|
| DESIGN     | RF       | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |              |
| DRAWN      | RF       |  |              |
| CHECKED    | GP       | DRAWING NO.  | REV. C       |
| MFG. APPR. | GP       | D3688  | SHEET 2 OF 4 |
| APPROVED   | GP       | TITLE  | SCALE        |
| DE APPR.   | GP       | STUD   | NTS          |
| DATE       | 09.09.09 | COPYRIGHT © 2008 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

**RELEASED**  
2009-09-22

8 7 6 5 4 3 2 1

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

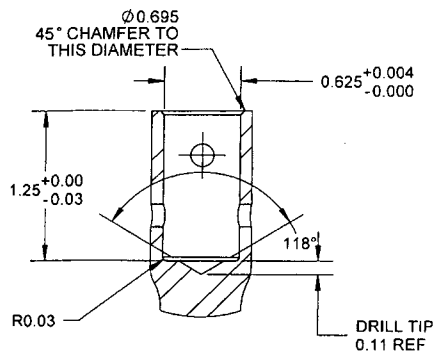
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

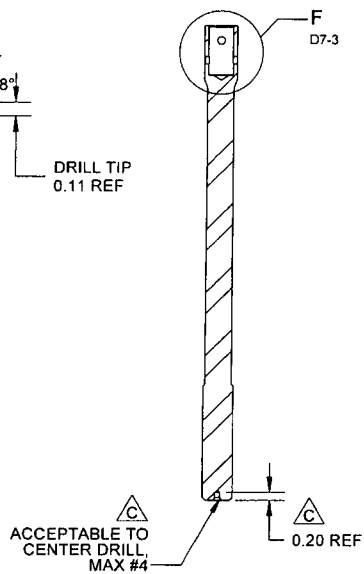
| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

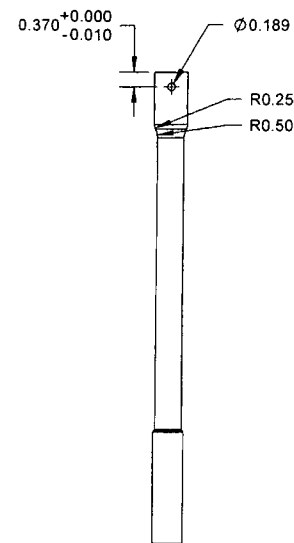
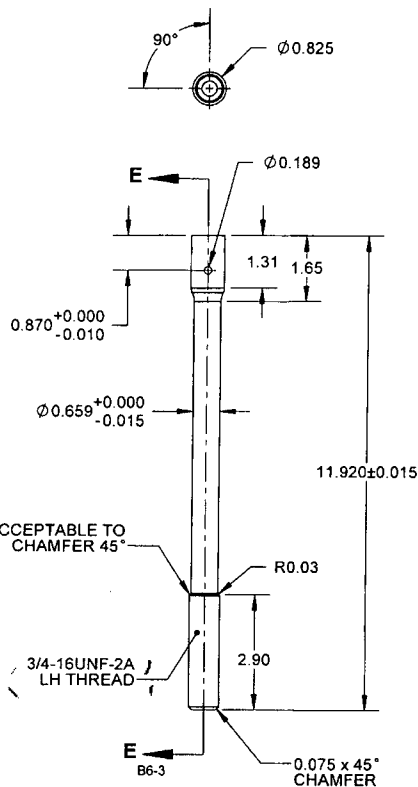
79308



**DETAIL F**  
SCALE 3X  
D6-3



**SECTION E-E**  
D4-3



**D3688-5 STUD**

**RELEASED**  
2009-09-22

**NOTES:**

- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.26 lb
- 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

|  |           |  |              |
|--|-----------|--|--------------|
| DESIGN   | RF        | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN  | RF        | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED  | <i>RF</i> | DRAWING NO.                            | REV. C       |
| MFG. APPR.   | <i>RF</i> | D3688                                  | SHEET 3 OF 4 |
| APPROVED   | <i>RF</i> | TITLE                                  | SCALE        |
| DE APPR.   | <i>RF</i> | STUD                                   | NTS          |
| DATE   | 09.09.09  | COPYRIGHT © 2008 BY DART AEROSPACE LTD |              |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

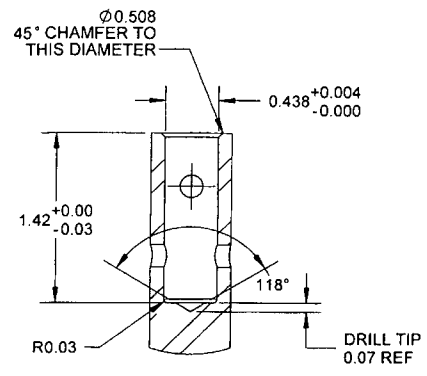
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

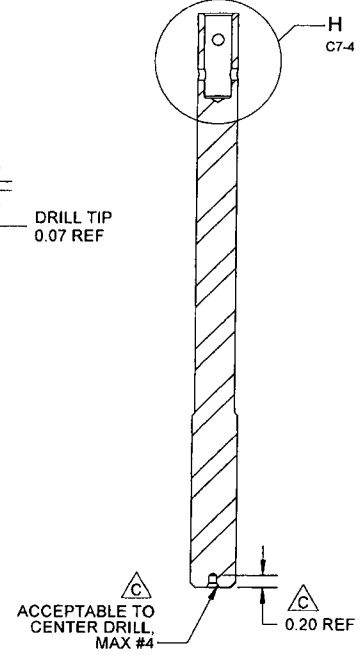
**NOTE:** Date & initial all entries



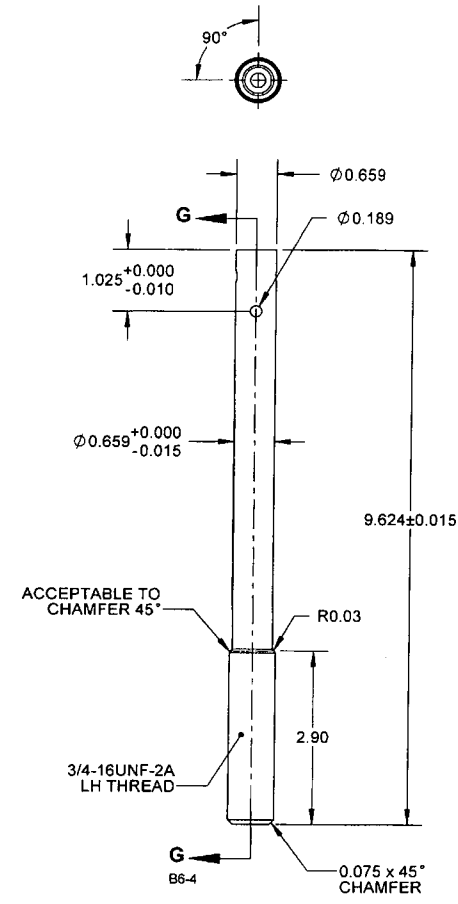
79308



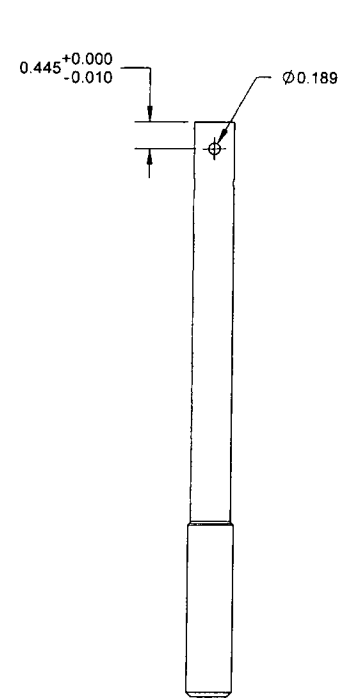
**DETAIL H**  
SCALE 2X  
D6-4



**SECTION G-G**  
D4-4



**D3688-7 STUD**



**RELEASED**  
2009-09-22

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.97 lb
  - 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

|  |          |  |              |
|--|----------|--|--------------|
| DESIGN   | RF       | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN  | RF       | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED  | Q2       | DRAWING NO.                            | REV. C       |
| MFG. APPR.   | HA       | D3688                                  | SHEET 4 OF 4 |
| APPROVED   | HA       | TITLE                                  | SCALE        |
| DE APPR.   | HA       | STUD                                   | NTS          |
| DATE   | 09.09.09 | COPYRIGHT © 2008 BY DART AEROSPACE LTD |              |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



## LIQUID PENETRANT TEST REPORT

P- 12179

PAGE 1 OF 1

|                  |                          |                 |                   |           |  |
|------------------|--------------------------|-----------------|-------------------|-----------|--|
| CLIENT           | DART Aerospace           | DATE            | 03/23/2012        | TIME      | AM <input checked="" type="checkbox"/> PM <input type="checkbox"/> |
| ATTENTION        | LINDA LACELLE            | ACUREN JOB NO.  | 188-12-00072      |           |  |
| ADDRESS          | 1270 ABERDEEN            | PO/VO NO.       |                   |           |  |
|                  | HAWKESBURY ON            | WORK LOCATION   | SAME              |           |  |
|                  |                          | ACCEPTANCE STD. | ASTM 1417/031-038 | REV./DATE | 2005   |
| PROJECT          | F.P.I. ON MACHINED PARTS |                 |                   |           |  |
| ITEM(S) EXAMINED | 30 STUDS                 |                 |                   |           |  |

|                 |   |       |           |                 |               |           |           |      |
|-----------------|---|-------|-----------|-----------------|---------------|-----------|-----------|------|
| JOB DESCRIPTION | PROCEDURE NO.   | LT-02 | REV./DATE | 2008            | TECHNIQUE NO. | LT-1042   | REV./DATE | 2008 |
| PART NO.        | SEE RESULTS   |       | MATERIAL  | STAINLESS STEEL |               | THICKNESS | VARIOUS   |      |
| SCOPE           | A WET FLUORESCENT LIQUID PENETRANT INSPECTION WAS CARRIED OUT ON THE 100% EXTERNAL SURFACE. |       |           |                 |               |           |           |      |

|                   |   |                                  |  |  |  |  |  |           |
|-------------------|---|----------------------------------|--|--|--|--|--|-----------|
| TEST DETAILS      |   |                                  |  |  |  |  |  |           |
| METHOD            | <input checked="" type="checkbox"/> FLUORESCENT | <input type="checkbox"/> VISIBLE | <input checked="" type="checkbox"/> WATER WASH | <input type="checkbox"/> SOLVENT REMOVABLE | <input type="checkbox"/> POST EMULSIFIED |  |  |           |
| FAMILY BRAND      | MAGNAFLUX                                       |                                  | BLACK LIGHT S/N                                | 16459                                      |  | <input type="checkbox"/> OUTPUT > 1000 $\mu$ W/cm <sup>2</sup> | <input type="checkbox"/> AMBIENT < 2 fc            |           |
| PENETRANT         | 2407  | MINIMUM DWELL TIME               | 45 MIN.  | LIGHTING EQUIP.                            | <input type="checkbox"/> FLASHLIGHT      | <input type="checkbox"/> TROUBLELIGHT                          | <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE |           |
| PENETRANT REMOVER | H2O   | MINIMUM DRY TIME                 | > 10 MIN.                                      | OTHER                                      | LAB. V.O.                                |  |  |           |
| DEVELOPER         | 10052   | MINIMUM DWELL TIME               | 10 MIN.  | LIGHT METER S/N                            | 1098866                                  |  | CAL DUE DATE                                       | July 2012 |
| DEVELOPER TYPE    | <input checked="" type="checkbox"/> NON AQUEOUS | <input type="checkbox"/> AQUEOUS | <input type="checkbox"/> DRY                   |  |  |  |  |           |

|                     |  |   |   |                                       |  |  |  |
|---------------------|--|---|---|---------------------------------------|--|--|--|
| TEST SURFACE        |  |   |   |                                       |  |  |  |
| SURFACE CONDITION   | <input type="checkbox"/> AS GROUND     | <input type="checkbox"/> AS WELDED                | <input checked="" type="checkbox"/> MACHINED                | <input type="checkbox"/> SHOT BLASTED | <input checked="" type="checkbox"/> CLEAN BARE METAL |  |  |
| SURFACE TEMPERATURE | <input type="checkbox"/> < - 4°C/ 20°F | <input type="checkbox"/> - 4°C/ 20°F TO 10°C/50°F | <input checked="" type="checkbox"/> 10°C/50°F TO 52°C/125°F | <input type="checkbox"/> > 52°C/125°F |  |  |  |

|          |                                 |                                   |
|----------|---------------------------------|-----------------------------------|
| RESULTS- | <input type="checkbox"/> METRIC | <input type="checkbox"/> IMPERIAL |
|----------|---------------------------------|-----------------------------------|

|                      |           |
|----------------------|-----------|
| W.O. #               |           |
| 4 - 79308 - STUDS ✓  | Sic/03/12 |
| 12 - 80363 - STUDS ✓ |           |
| 6 - 79093 - STUDS ✓  |           |
| 5 - 79300 - STUDS ✓  |           |

## Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

## Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

|                         |                |                            |                            |                     |          |
|-------------------------|----------------|----------------------------|----------------------------|---------------------|----------|
| CLIENT REPRESENTATIVE   | Andrew Sheldon | PRINT                      | SIGNATURE                  | DTR #               | E-63476  |
| TECHNICIAN (SIGNATURE): | M.KE. Johnston | 1 <sup>st</sup> TECHNICIAN | 2 <sup>nd</sup> TECHNICIAN | REPORT REVIEWED BY: |          |
| NAME (PRINT):           |                | CGSB LEVEL II              | SNT LEVEL II               | NAME                | INITIALS |
|                         |                | CGSB REG. NO. 6606         | CGSB REG. NO.              |                     |          |

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